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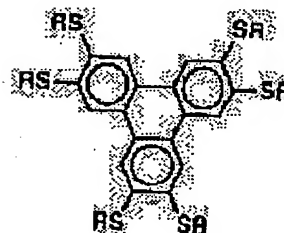
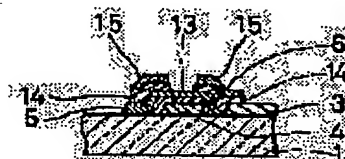
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(54) SEMICONDUCTOR DEVICE AND ITS MANUFACTURE

(57)Abstract

PURPOSE: To make high temperature treatment and expensive substrate material unnecessary, by using material having pillar type structure of plane type low molecule in a discotic phase and setting the normal of the plane type low molecule surface in the solid phase to be in parallel with the substrate surface.

CONSTITUTION: A gate electrode layer 4, a source electrode layer 5, and a gate insulating layer 6 are formed on a substrate 1, and further a semiconductor layer 13 is laminated, which exhibits a solid phase at a normal temperature, and constitutes a discotic phase-solid temperature system. The material having pillar type structure of plane type low molecule of a discotic phase is 2, 3, 6, 7, 10, 11-hexahexylthiotriphenylene shown by formula. This material in the isotropic liquid phase is spread on the substrate 1. While magnetic lines of force are vertically applied to the substrate 1 surface, the material is quickly cooled from the discotic phase to the solid phase. Thereby the direction of the pillar type structure is made parallel with the substrate 1 surface, so that high temperature treatment and expensive substrate material can be made unnecessary.



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